

## CLAIMS:

1. A system for data transmission comprising:
  - a transmitting system comprising a first lexicon including a plurality of digital sequence to unique identifier correspondences;
  - 5 a receiving system;
  - a transmission medium coupling said transmitting and receiving systems, said transmitting system capable of transmitting at least one of said plurality of unique identifiers to said receiving system in lieu of said at least one corresponding digital sequence.
- 10 2. The system of claim 1 comprising:
  - another system capable of receiving at least one of said plurality of unique identifiers from one of said transmitting or receiving systems.
- 15 3. The system of claim 1 wherein said receiving system comprises a second lexicon including a plurality of digital sequence to unique identifier correspondences.
- 20 4. The system of claim 2 wherein said another system comprises another lexicon including a plurality of digital sequence to unique identifier correspondences.
5. The system of claim 1 wherein said unique identifiers are based upon hashes of said
- 25 corresponding digital sequences.
6. The system of claim 1 wherein said unique identifiers are based upon sequential identifiers for said corresponding digital sequences.

7. The system of claim 1 wherein said unique identifiers are based upon a hash based file system.
8. The system of claim 1 wherein a digital sequence to be transmitted from said transmitting system to said receiving system is factored into a number of digital sequence chunks for which corresponding unique identifiers are ascribed.
9. The system of claim 8 wherein said digital sequence to be transmitted is factored by means of sticky byte factoring.
10. The system of claim 1 wherein said first lexicon further comprises information regarding a contents of other lexicons in said system.
11. The system of claim 3 wherein said first and second lexicons comprise information regarding a content of other lexicons in said system.
12. The system of claim 1 wherein data transmissions within said system are effectuated on a point-to-point basis.
13. The system of claim 1 wherein data transmissions within said system are effectuated on a point-to-multipoint basis.
14. The system of claim 1 wherein data transmissions are routed in said system based on metrics derived from said first lexicon.

15. A method for data transmission comprising:  
    providing a transmitting system comprising a  
    first lexicon including a plurality of digital  
    sequence to unique identifier correspondences;  
5      providing a receiving system;  
    coupling said transmitting and receiving systems  
    through a transmission medium, said transmitting  
    system capable of transmitting at least one of said  
    plurality of unique identifiers to said receiving  
10   system in lieu of said at least one corresponding  
    digital sequence.
16. The method of claim 15 comprising:  
    providing another system capable of receiving at  
    least one of said plurality of unique identifiers from  
15   one of said transmitting or receiving systems.
17. The method of claim 15 wherein said receiving  
    system comprises a second lexicon including a  
    plurality of digital sequence to unique identifier  
    correspondences.
- 20   18. The method of claim 16 wherein said another  
    system comprises another lexicon including a plurality  
    of digital sequence to unique identifier  
    correspondences.
19. The method of claim 15 wherein said unique  
25   identifiers are based upon hashes of said  
    corresponding digital sequences.
20. The method of claim 15 wherein said unique  
    identifiers are based upon sequential identifiers for  
    said corresponding digital sequences.

21. The method of claim 15 wherein said unique identifiers are based upon a hash based file system.

22. The method of claim 15 further comprising:  
factoring a digital sequence to be transmitted  
5 from said transmitting system to said receiving system  
into a number of digital sequence chunks; and  
ascribing corresponding unique identifiers  
therefor.

23. The method of claim 22 wherein said step of  
10 factoring is carried out by means of sticky byte  
factoring.

24. The method of claim 15 wherein said first lexicon  
further comprises information regarding a contents of  
other lexicons in said system.

25. The method of claim 17 wherein said first and  
15 second lexicons comprise information regarding a  
content of other lexicons in said system.

26. The method of claim 15 wherein data transmissions  
within said system are effectuated on a point-to-point  
20 basis.

27. The method of claim 15 wherein data transmissions  
within said system are effectuated on a point-to-  
multipoint basis.

28. The system of claim 15 further comprising:  
25 routing data transmissions in said system based  
on metrics derived from said first lexicon.

29. A system for symbolic exchange of digital sequences comprising:

first and second computer systems comprising respective first and second local lexicons including a plurality of digital sequence to unique identifier correspondences;

a transmission medium coupling said first and second computer systems;

said first computer system operative to transmit a first unique identifier to said second computer system in lieu of said corresponding digital sequence.

30. The system of claim 29 wherein said second computer system is operative to compare said first unique identifier to a contents of said second local lexicon and request said first computer system to transmit said corresponding digital sequence to said first unique identifier if said first unique identifier is not present in said second lexicon.

31. The system of claim 29 wherein said first computer system is operative to transmit said corresponding digital sequence to said first unique identifier if said first computer system is aware that said second lexicon does not contain said unique identifier.

32. The computer system of claim 31 wherein said second computer system is operative to add said corresponding digital sequence to said first unique identifier to said second local lexicon if not previously contained therein.

33. The computer system of claim 31 further comprising:

5 a third computer system comprising a third local lexicon including a plurality of digital sequences to unique identifier correspondences, said third computer system coupled to one of said first or second computer systems and operative to receive a first unique identifier therefrom in lieu of said corresponding digital sequence.

10 34. The computer system of claim 29 wherein said transmission medium comprises a network.

35. The computer system of claim 34 wherein said network comprises the Internet.

15 36. The computer system of claim 29 wherein said unique identifiers are based upon a hash of said corresponding digital sequence.

37. The computer system of claim 29 wherein said digital sequence comprises a file.

20 38. The computer system of claim 29 wherein said digital sequence comprises a video stream.

39. A method for symbolic exchange of digital sequences between first and second computer systems including respective first and second local lexicons containing a plurality of digital sequence to unique identifier correspondences, said method comprising:

transmitting a first unique identifier from said first computer system to said second computer system in lieu of said corresponding digital sequence.

40. The method of claim 39 further comprising:  
comparing said first unique identifier to said  
contents of said second local lexicon; and  
requesting said first computer system to transmit  
5 said corresponding digital sequence to said first  
unique identifier if said first unique identifier is  
not present in said second lexicon.

41. The method of claim 39 further comprising:  
transmitting said corresponding digital sequence  
10 to said first unique identifier if said first computer  
system is aware that said second lexicon does not  
contain said unique identifier.

42. The method of claim 40 further comprising the  
step of:  
15 adding said corresponding digital sequence to  
said first unique identifier to said second local  
lexicon in not previously present therein.

43. The method of claim 39 further comprising the  
step of:  
20 providing a third computer system comprising a  
third local lexicon including a plurality of digital  
sequence to unique identifier correspondences;  
coupling said third computer system to one of  
said first or second computer systems; and  
25 receiving a first unique identifier from said one  
of said first or second computer systems in lieu of  
said corresponding digital sequence.

44. The method of claim 39 wherein said unique  
identifiers are based upon a hash of said  
30 corresponding digital sequence.

46. The method of claim 39 wherein said digital sequence comprises a video stream.